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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/733,072	10/16/1996	KAMBIZ B. MAKOUI	0286-1156	8652

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EXAMINER	
YAN, REN LUO	

ART UNIT	PAPER NUMBER
2854	

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/733,072	MAKOUI ET AL.	
	Examiner	Art Unit	
	Ren L Yan	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *78-147* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *78-147* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Applicant's election with traverse of Group I, claims 78-96 and 108-142 in Paper No. 50 is acknowledged. Upon reconsideration, the restriction requirement set forth in the previous Office action is hereby withdrawn and all pending claims 78-147 are being considered in the following:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 78-81, 83-86, 88-94, 108-111, 113-115, 117-123, 126-129, 131-133, 135-140 and 143-147 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer(3,731,620) in view of Saueressig(4,685,393), EP 181726 and Kildune(5,266,257). The patent to Klemmer teaches in an embossing apparatus and method for embossing a continuous web of sheet material as shown in Fig. 1 the very concept as disclosed and claimed in the present application to use a releasably attached sleeve 32 with engraved pattern thereon on a embossing roller 24 having a rigid core so as to facilitate the replacement of the engraved sleeve without having to remove the entire embossing roller from the machine. See column 5, lines 10-31 and column 7, lines 46-62 in Klemmer for details. However, Klemmer does not show in detail the structure that enables the embossing sleeve to be releasably mounted on the roller core. Saueressig teaches the structure and method of employing a printing roller sleeve positioning means for releasably attaching a printing sleeve 3 onto a roller core 2 using pressurized gas as recited including an axially extending bore 22, a plurality of radially extending bores 23 intersecting the axially extending

bore 22, and circumferential grooves 24 extending to the surface of the core 2 interconnecting the radially extending bores 23 for feeding the pressurized gas to the surface of the core 2 in order to expand the printing sleeve 3 so as to facilitate positioning the sleeve 3 relative to the core 2. See the entire Saueressig reference for example. EP 181726 teaches a printing roll with a detachable sleeve the conventionality of providing a keyway(100, 102) on the roll core 6 to be mated with a key(101, 105) on the inner surface of sleeve 1 so as to prevent rotation of the sleeve relative to the core. See Figs. 3 and 4 in EP 181726 for example. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the embossing roller of Klemmer with the properly disposed structure for providing pressurized gas as taught by Saueressig so as to facilitate the mounting and removing of the embossing sleeve and with key and keyway formations on the sleeve and roller core, respectively, as taught by EP 181726 in order to prevent rotation of the sleeve relative to the core when subjected to high embossing pressure. With respect to claims 83, 84, 113, 114, 131 and 132, Klemmer, as modified by the applied prior art references, may not disclose the material used for the engraved sleeve. Kildune discloses in the paragraph bridging columns 1 and 2 that it is conventional to provide an embossing roller core with a vulcanized rubber sleeve to carry out the embossing function. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the embossing roller of Klemmer with a vulcanized rubber sleeve as taught by Kildune. The mere application of a known material based upon its well known properties and intended use by those having ordinary skill in the art in order to obtain an expected outcome would involve no apparent unobviousness. With respect to the recited sleeve hardness in claims 78-81, 108-111 and 126-129, since the applied prior art references use the same material(vulcanized rubber), it

would appear that the broad hardness range as recited would inherently be met. Besides, due to the lack of disclosure showing any criticality, the hardness of the embossing sleeve employed would be determined based upon the type of material to be embossed, etc. and such a determination would be made by those having ordinary skill in the art through routine experiment in order to obtain the desired embossing outcome. With respect to the broadly recited embossing pattern includes embossing elements having one of various recited shapes in claims 88, 117 and 135, since the particular laser engraving technique on the embossing sleeve is not disclosed and claimed as part of the present invention, the various shapes of the embossing elements in the embossing pattern are considered as a design preference based on the embossed images desired to be obtained. Such a design preference by those having ordinary skill in the art would involve no apparent unobviousness. For example, the patent to Kildune teaches an embossing roll 32 with an embossing pattern including embossing elements 12' having curvilinear side walls so as to create the same embossed pattern on a passing film 36. See Fig. 5 in Kildune. It would have been obvious to those having ordinary skill in the art to provide the embossing roller sleeve of Klemmer, as modified by the applied prior art references, with the embossing pattern and elements having curvilinear side walls appropriately disposed as taught by Kildune when such an embossing pattern is desired to be created on a substrate. With respect to claims 93, 122 and 139, the width and depth of the circumferential groove would have been ultimately determined by those having ordinary skill in the art through routine experiment in order to achieve a desired sleeve mounting or demounting outcome. Such a determination based on routine experiment would have been obvious to those skilled in the art. With respect to the plurality of sleeves each being selectively secured to the core of the embossing roller, since

Klemmer teaches to releasably attach a sleeve on an embossing roller so as to facilitate the replacement of the engraved sleeve, if follows naturally that multiple sleeves are inherently available in the device of Klemmer so as to be selectively mounted on the embossing roller for the purpose of changing to a sleeve with a different embossing pattern, replacing a worn sleeve, and etc.

Claim 82, 112, 130, is rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of the applied prior art as applied to claims 78, 108 and 126 above, and further in view of Bulson(3,752,227). Klemmer, as modified by the applied prior art, teaches all that is claimed except for the core of the embossing roller being made of steel. Bulson teaches in column 3, lines 9-19 that the core of an embossing roller is conventionally made of solid steel. In view of the teaching of Bulson, it would have been obvious to those having ordinary skill in the art to make the core of the embossing roller of Klemmer, as modified by the applied prior art with steel for its known rigidity.

Claims 87, 116, 134 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of the applied prior art as applied to claims 78, 108 and 126 above, and further in view of Jones(3,404,254). Klemmer, as modified by the applied references, teaches all that is claimed except that it does not disclose how the sleeves are engraved. Laser engraving on the surface of cylindrical rollers has long been known and used in the art for its ability to generate accurate and sharp images. Jones teaches such a conventional use of laser engraving on cylindrical shaped roller bodies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use laser technology to engrave the embossing pattern on the sleeve of Klemmer, as modified by the applied references, as taught by Jones in order to achieve improved image pattern on the sleeve.

Claims 95, 96, 124, 125, 141, 142, are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of Saueressig, EP 181726 and Kildune as applied to claims 78, 108 and 126 above, and further in view of Julian(4,144,813). Klemmer, as modified by Saueressig, EP 181726 and Kildune teaches all that is claimed except for the use of tapered roller core and sleeve. Julian teaches in a similar roller structure using pressurized gas to facilitate mounting of the sleeve the conventionality of using tapered roller core outer surface 11 and sleeve inner surface 5 so as to facilitate the mounting and detachment of the sleeve relative to the roller core. See the entire Julian reference for example. In view of the teaching of Julian, it would have been obvious to one of ordinary skill in the art to provide the roller core and sleeve inner surface of Klemmer, as modified by Saueressig, EP 181726 and Kildune, with tapered mating surfaces in order to ease the sleeve mounting operation.

Claims 97-99 and 102-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of the applied prior art as applied to claims 78-81, 83 and 84 above, and further in view of Hoage et al(4,903,597). Klemmer, as modified by the applied prior art, teaches all that is claimed except for the air pressure range as recited. Hoage et al teach in column 3, lines 6-19 that it is known to apply high air pressure in the range of 125 psi-250 psi or higher for mounting printing sleeves onto printing cylinders based on the particular material and the thickness of the sleeves used. In view of the teaching of Hoage et al, it would have been obvious to one of ordinary skill in the art to provide the sleeve mounting structure of Klemmer, as modified by the applied prior art references, with the air pressure necessary based on the material and thickness of the sleeves used in order to facilitate the mounting and demounting of the sleeves on the embossing roller.

Claim 100 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of the applied prior art references as applied to claim 97 above, and further in view of Jones(3,404,254). Klemmer, as modified by the applied references, teaches all that is claimed except that it does not disclose how the sleeves are engraved. Laser engraving on the surface of cylindrical rollers has long been known and used in the art for its ability to generate accurate and sharp images. Jones teaches such a conventional use of laser engraving on cylindrical shaped roller bodies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use laser technology to engrave the embossing pattern on the sleeve of Klemmer, as modified by the applied references, as taught by Jones in order to achieve improved image pattern on the sleeve.

Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmer in view of the applied prior art references as applied to claim 97 above, and further in view of Bulson(3,752,227). Klemmer, as modified by the applied prior art, teaches all that is claimed except for the core of the embossing roller being made of steel. Bulson teaches in column 3, lines 9-19 that the core of an embossing roller is conventionally made of solid steel. In view of the teaching of Bulson, it would have been obvious to those having ordinary skill in the art to make the core of the embossing roller of Klemmer, as modified by the applied prior art with steel for its known rigidity

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L Yan whose telephone number is 703-308-0978. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 703-305-6619. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ren L Yan
Primary Examiner
Art Unit 2854

Ren Yan
Jan. 9, 2004